

Case Study

Michindoh AquaBounty

The AquaBounty aquaculture operation in Pioneer, Ohio was a point of discussion at the Michindoh Aquifer Groundwater Governance workshop because of its proposal to make regular large withdrawals from the Michindoh aquifer. In 2022, the proposed operation was approved by Ohio's Department of Natural Resources to withdraw 5.25 million gallons daily (MGD) from the Michindoh aquifer.¹



Figure 1. The Michindoh Tri-State Region

With the approximate Michindoh Aquifer boundaries, Tribal stakeholders, and select municipal stakeholders. Data sourced and adapted from ESRI, GLIFWC, and the City of Bryan, Ohio.

¹ "AquaBounty Water Withdrawal and Consumptive Use Permit - East Well Field." Ohio Department of Natural Resources. Accessed February 15, 2025. <https://ohiodnr.gov/discover-and-learn/safety-conservation/about-odnr/water-resources/water-inventory-planning/abl-public-comments>.

Economic development opportunities were a driving force of this operation, as over 100 jobs were to be created. Incentives were generated from public dollars to assist in this development. For example, the Toledo Lucas County Port Authority authorized up to \$425 million in revenue bonds to help AquaBounty finance the project.² While the project gained the backing of the village of Pioneer, Williams County, the state of Ohio, JobsOhio, and the regional growth partnership, others protested the move for such a large draw from the Michindoh aquifer.

The Williams County Alliance raised concerns about the capacity of the aquifer to sustainably supply residents with drinking water. In 2007, the nearby town of Bryan, Ohio had petitioned the EPA for sole source designation of the Michindoh Aquifer.³ In response to comments received in 2010, a scoping study was conducted to assess available geologic information. However, EPA determined the necessary data to make this designation was not available and requested further information from the City of Bryan. The city did not have the means to collect this data, so it was determined that until this information was received, EPA would indefinitely suspend the petition. In 2019, citizens of Williams County petitioned to have rights granted to the Michindoh Aquifer,⁴ but this was denied by the County and the State of Ohio. Furthermore, a ruling by the State of Ohio banned the enforcement of Rights of Nature.⁵ These issues created a challenging context for the Williams County Alliance as they advocated their concerns about AquaBounty's proposal.

One Tribal Nation with ceded territory within the aquifer's extent, the Pokagon Band of Potawatomi, wrote a letter during Ohio DNR's public comment process for the permit. This letter outlined concerns about threats to wetlands in the projected 13,000 acre cone of depression, as these wetlands are a source of traditional medicines and ecosystem health in the region. AquaBounty responded, "It was determined...that the glacial till layer exists consistently at varying thickness throughout the modeled area between the shallow and deep aquifer zones, providing a "barrier" to impact from the effects of pumping the production wells on surface water resources".⁶

In 2022, the Ohio DNR approved the permit for the aquaculture operation's water use of 5.25 MGD. Despite concerns raised by community groups and the Pokagon Band of the Potawatomi, no monitoring of wetlands was included in the Groundwater and Surface Water Monitoring Plan.⁷

2 Henry, Tom. "Ohio DNR Drilling 10 Water-Research Wells to Learn More about a Mysterious Tri-State Aquifer." The Blade, January 11, 2025. <https://www.toledoblade.com/local/environment/2025/01/11/ohio-dnr-drilling-10-new-water-research-wells-tri-state-aquifer>.

3 Sole Source Aquifer Petition: Michindoh Glacial Aquifer. Bryan, Ohio, 2007. <https://www.epa.gov/sites/default/files/2016-02/documents/michindoh-sole-source-aquifer-petition-2007-69pp.pdf>.

4 "Ohio Group Submits Signatures to Recognize Rights for Michindoh Aquifer." Community Environmental Legal Defense Fund, June 26, 2019. <https://celdf.org/2019/06/media-statement-ohio-group-submits-signatures-to-recognize-rights-for-michindoh-aquifer/>.

5 "Ohio Legislature Bans Rights of Nature Enforcement." Community Environmental Legal Defense Fund, July 18, 2019. <https://celdf.org/2019/07/rights-of-nature-ban/>.

6 Wulf, Sylvia, AquaBounty. Letter to Dena Barnhouse, Division of Water Resources, Ohio Department of Natural Resources. "AquaBounty's Response to Public Comments Received by the Ohio Department of Natural Resources Regarding AquaBounty's East Well Field Groundwater Withdrawal and Consumptive Use Permit Application," September 21, 2022. <https://dam.assets.ohio.gov/image/upload/ohiodnr.gov/documents/water/aquabounty2/AquaBountyResponseToPublicComments-AQBEastWellfield-09212022.pdf>

7 Groundwater and Surface Water Monitoring Plan: AquaBounty Farms, LLC. Pioneer, Ohio: Burgess & Niple, 2023.

AquaBounty drilled wells to monitor the groundwater and respond to the requirements of the permit. This data was requested by Michigan's Department of Environment, Great Lakes, and Energy (EGLE) to support the United States Geologic Survey (USGS) in building a groundwater flow model for the Michindoh Aquifer.⁸ The model was a direct response to the data gaps that prevent sound decisions about high capacity well permitting. According to EGLE, a partner on the USGS project, AquaBounty refused to share this information. Therefore 5 wells were installed at two locations within 2.5 miles of the border, and in the 5-to-10-foot projected cone of depression. They were equipped with pressure transducers to monitor water-level impacts from pumping and support the model.

AquaBounty could not meet their financial obligations, having not made a profit in 30 years and announced they would no longer be developing this site. As of February 2025, AquaBounty discontinued operation and was expected to pay the village of Pioneer millions of dollars a year for the electricity it used and reimburse it for certain costs associated with building the substation. The \$5 million note matures in November 2025. The village said it will pay any debt that it owes, "even if AquaBounty should cease to exist".⁹

One community organizer involved in the dispute from the beginning reflected that this halt was not the result of more equitable groundwater policy. She says, "We seem to have dodged the "bullet" on AquaBounty, but not because of any systemic changes that would shift western perspectives of the commodification of water. We witnessed how so many people dependent upon the Michindoh aquifer understood how critical water is to all life, yet existing law doesn't reflect that value. We can only hope that indigenous knowledge and belief can guide a shift in law."

Other similar business models with larger access to investors may still present themselves in this same area again soon, with some community members hearing talk about the site being redeveloped into a potential data center or a solar farm.¹⁰

8 Ohio-Kentucky-Indiana Water Science Center. "Hydrogeologic Mapping, Data Collection, and Geologic Framework of Glacial Deposits in a Multi-County Area of Northwest Ohio, Northeast Indiana, and South Michigan." USGS, September 4, 2020. <https://www.usgs.gov/centers/ohio-kentucky-indiana-water-science-center/science/hydrogeologic-mapping-data-collection>.

9 Clark, Anna. "The One That Got Away: This Small Town Is Left in Limbo After Betting Big on GMO Salmon." ProPublica, February 18, 2025. <https://www.propublica.org/article/aquabounty-pioneer-ohio-gmo-salmon-fish>.

10 Henry, Tom. "Ohio DNR Drilling 10 Water-Research Wells to Learn More about a Mysterious Tri-State Aquifer." The Blade, January 11, 2025. <https://www.toledoblade.com/local/environment/2025/01/11/ohio-dnr-drilling-10-new-water-research-wells-tri-state-aquifer>.